Check List the journal of biodiversity data

NOTES ON GEOGRAPHIC DISTRIBUTION

Check List 13 (4): 91–94
https://doi.org/10.15560/13.4.91

PENSOFT

Extension of the geographical distribution of Schneider's Dwarf Caiman, *Paleosuchus trigonatus* (Schneider, 1801) (Crocodylia: Alligatoridae), in the Amazon–Cerrado transition, Brazil

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Abstract

We present new records of occurrence of Schneider's Dwarf Caiman, *Paleosuchus trigonatus* and extend its geographical distribution. Eight individuals were caught in the following locations: Sangue River, in the municipality of Campo Novo dos Parecis, Claro River and Marapi River, in the municipality of São José do Rio Claro, and tributaries of the Juruena River, in the state of Mato Grosso, Brazil. These records extend the geographical distribution of the species nearly 500 km south of the limit given in published range maps.

Key words

New records; conservation; *Paleosuchus*; Mato Grosso; Brazilian Amazon.

Academic editor: Raul F. D. Sales | Received 30 June 2016 | Accepted 10 April 2017 | Published 12 July 2017

Citation: Campos Z, Muniz F, Magnusson WE (2017) Extension of the geographical distribution of Schneider's Dwarf Caiman, *Paleosuchus trigonatus* (Schneider, 1801) (Crocodylia: Alligatoridae), in the Amazon-Cerrado transition, Brazil. Check List 13 (4): 91–94. https://doi.org/10.15560/13.4.91

Introduction

The geographical distribution of Schneider's Dwarf Caiman, *Paleosuchus trigonatus* (Schneider, 1801), covers 10 countries; in Brazil it is considered to be restricted to the Amazon basin (Magnusson and Campos 2010). The distribution of the species given in the IUCN Red List (IUCN 1996) is similar to that given by Magnusson and Yamakoshi (1985), who specifically excluded the only record of the species from deep in the Cerrado biome. Campos et al. (2013) provided new records, but those did not extend the species range, and the southern limit on their map largely corresponded to the limit of forest in the contact zone between the Amazon and Cerrado biomes. Here, we report occurrence records that extend the known geographical distribution of *P. trigonatus*. These are the first occurrence records of the species in the Cerrado biome although still in the Amazon drainage. They are close to the Parecis mountain range, which separates the Amazon drainage from that of the Upper Paraguay River basin (Pantanal). The records are from tributaries of the Tapajós River, a major tributary of the Amazon, whose headwaters arise on the Parecis plateau in an area predominantly covered by savanna (IBGE 2004).

Methods

Between September 2015 and May 2016, we undertook nocturnal surveys using an aluminum boat with 15 HP outboard motor in the headwater tributaries of the Juru-

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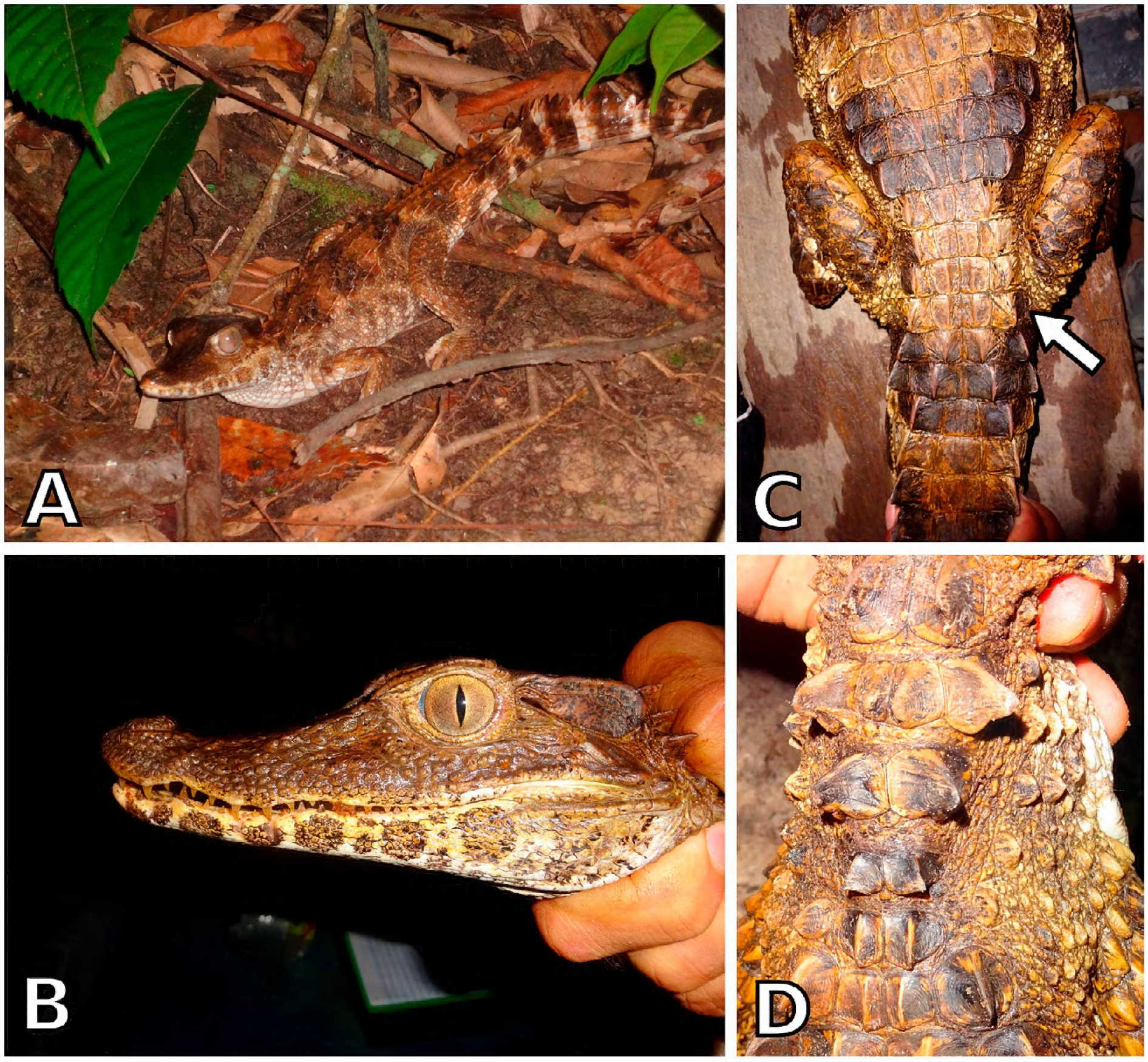

Figure 1. Male specimen of *Paleosuchus trigonatus* captured in Claro River, showing some diagnostic characters. **A.** General view of the body. **B.** Head shape. **C.** Arrow indicates the two scales of the sacral region. **D.** Post-occipital region.

ena River in the state of Mato Grosso: Sangue, Claro, Marapi, and Alegre rivers. We captured individuals of *Paleosuchus trigonatus* by noose, and measured their snout–vent length (SVL cm) and body mass (kg). A small piece of tissue was removed from the tail scutes for genetic analysis and deposited in the Universidade Federal do Amazonas tissue collection (voucher numbers: CTGAH 4088; 4084-4085; 4152; 4154-4157). Individuals were released at their capture location within an hour. Geographical coordinates were recorded with a GPS receiver (Garmin® model GPSmap 62, datum WGS84). The specimens were captured under license granted by the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA, permit #13048-1).

In the Claro River, we captured one individual (male) in September 2015 (Fig. 1), and captured four individuals (two males and two females) and saw one in May 2016. We captured two individuals (male and female) in the Sangue River, which has transparent, fast-flowing water bordered by thick forest (Fig. 2). In the Marapi River, we saw two individuals in May 2016, but only captured one of them (female). In the Alegre River, we saw one individual in May 2016, but did not capture it (Table 1). All these records were far from the previous range limits

Table 1. Locations of *Paleosuchus trigonatus* (Pt), in rivers of the Brazilian Cerrado biome, with snout–vent length (SVL, cm), weight (kg) and sex of individuals.

Latitude	Longitude	SVL (cm)	Weight (kg)	Sex	River
-13.6899	-057.7036	39.0	1.2	Male	Sangue
-13.7258	-057.7244	41.5	1.4	Female	Sangue
-13.5232	-056.6303	41.2	1.4	Female	Claro
-13.5405	-056.6313	33.0	0.7	Male	Claro
-13.5808	-056.6460	39.0	1.2	Male	Claro
-13.5467	-056.6354	46.5	2.1	Female	Claro
-13.5592	-056.6407	66.0	8.0	Female	Claro
-13.5750	-056.6446	—	—	—	Claro
-12.9274	-056.7310	46.5	2.4	Female	Marapi
-12.9272	-056.7377	—	—	—	Marapi
-12.9771	-056.7571	—	—	—	Alegre

Figure 2. Sangue River in the Cerrado-Amazon transition, Campo Novo dos Parecis, Mato Grosso, Brazil.

given for the species (Campos et al. 2013) and within an area dominated by savanna vegetation in the Cerrado biome (Fig. 3).

Results

Confirmation of the identity of captured specimens was made by William Magnusson based on some diagnostic characters of *Paleosuchus trigonatus* given in Magnusson (1992a, 1992b) that differentiate it from its congener *Paleosuchus palpebrosus*: usually one row of enlarged occipital scutes (two in *P. palpebrosus*); two rows of enlarged sacral scutes (Fig. 1C; four in *P. palpebrosus*), and enlarged scutes of the double caudal crest project laterally (vertically in *P. palpebrosus*). The identification of individuals of *P. trigonatus* that were not captured were made by Zilca Campos, based on head shape (Fig. 1B), two rows of enlarged sacral scutes (Fig. 1C) and enlarged and pointed pos-occipital scales (Fig. 1D). In *P. trigonatus*, the snout is longer than the cranial platform (Fig. 1B; shorter in *P. palpebrosus*).

Discussion

In the Sangue River, we surveyed 9.3 km and saw two individuals (0.2 individuals/km). In the Claro River, we surveyed 11.9 km and saw five individuals (0.28 individuals/km). In the Marapi and Alegre rivers we surveyed 17.7 km and saw a total of three individuals (0.17 individuals/km). These densities are similar to those in large rivers in other parts of its range (Muniz et al. 2015), indicating that the species is able to survive in the clear, fast flowing rivers surrounded by savanna that previously were thought to be inhabited only by *P. palpebrosus*. These new records extend the known geographical distribution of *P. trigonatus* south by 500 km. The absence of surveys by caiman experts in the region is a more likely explanation for the lack of previous records than a recent range extension by the species.

Acknowledgements

We thank the Empresa Brasileira de Pesquisa Agropecuária (Embrapa) Pantanal for supporting this study. We also thank Denis Celin Tilcara for help in caiman capture, and Almor Zanchet for logistic support in the Pousada Jardim da Amazônia. FM was supported by a grant from Fundação de Amparo à Pesquisa do Estado do Amazonas (FAPEAM). WEM received support from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) through INCT-CENBAM and Programa de Pesquisa em Biodiversidade (PPBio) AmOc.

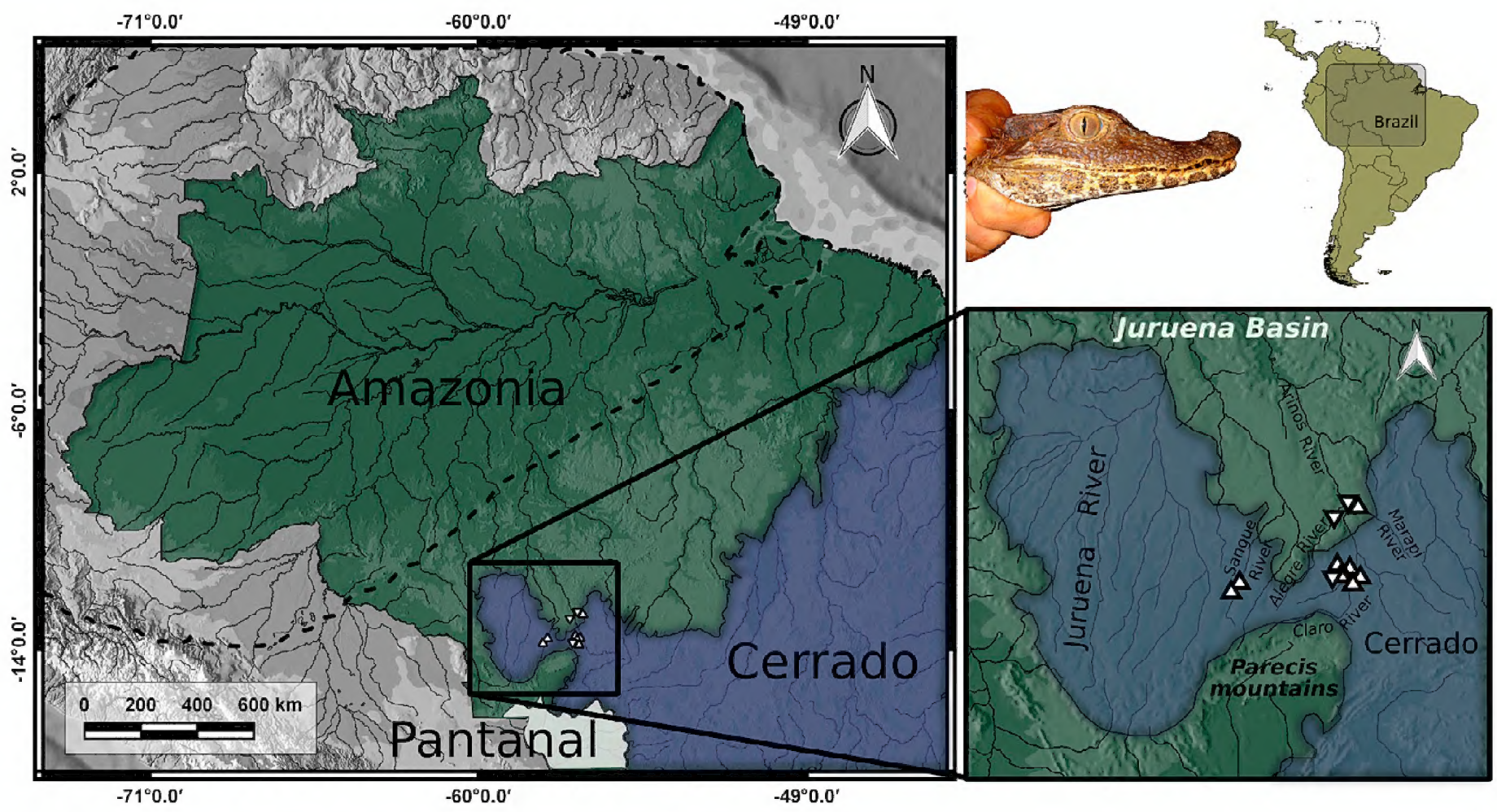

Figure 3. New records of the geographic distribution of *Paleosuchus trigonatus* in the Sangue, Claro, Marapi and Alegre rivers in the Cerrado biome, Mato Grosso, Brazil. Triangle = 8 individuals captured; inverted triangle = 3 individuals observed and not captured.

Authors' Contributions

ZC and FM collected the data, ZC and WEM wrote the text, WEM confirmed the species identification, and FM made the Figure 2.

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